JETROCK

User Manual

Installation

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korenix

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Safety Instructions

The following instructions which must be observed ensure your personal safety and to avoid damage to the device and machinery. Only the personnel fully familiar with the safety instructions and warnings should operate the device. Failure to observe the information given in the instructions could result in injury or damage.

Accessories	Please note that the accessories' characteristics may not comply with the range of operating environment of this product. This might limit the operating condition for the entire system.
Environment	The device is only operated in the listed surrounding temperature range. Please select proper installation site compliance with the climatic limits listed in the Technical Data.
Grounding	The device is grounded via a ground screw. Before establishing any connections, connect the ground first. To remove connections, disconnect the ground last.
Housing	Any attempt at opening the housing is forbidden. Any malfunction resulted from opening the housing is out of the scope of warranty.
Lightning	Do not work on the device or the cables during period of lightning activity.
Power Supply	Observe proper DC voltage polarity when installing power input cables. Reversing voltage polarity can cause permanent damage to the unit and void the warranty.
Recycling Note	After usage, this product must be disposed of properly as electronic waste in accordance with the disposal regulations of your country.
Shielding Ground	The shielding ground of the patch cable is connected to the chassis as a conductor. The shielding of the patch cable must be grounded on the plug housing. Beware of possible short circuits when connecting a cable with conductive shielding braiding.

FCC Note

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to port 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

1. Overview

JetRock series is designed to provide ultra rugged and long-life protection against the roughest industrial usage without the need of additional shelters. The totally sealed enclosure achieves the highest level of protection, IP67 and IP68. JetRock Series is equipped with rugged RJ45 and M12 connectors for a secured, robust connection under the most brutal environments.

With the highest grade of protection, JetRock series can be used in various locations and applications. From automation and plant floor, to offshore and pharmaceutical, the JetRock is the perfect fit many tough industrial needs.

1.1. Product Features

JetRock models have the following features:

- IP67 / IP68 enclosure protection
- Robust connection against shock and vibration
- Store and forward switch technology
- Broadcast storm filtering
- 2K MAC address table
- Transfer packet size from 64 to 1536 bytes
- JetNet 3706-RJ is IEEE 802.3af PoE enabled.

The managed models, JetNet 4506-RJ and JetNet 4506-M12, provide a large range of functions:

- Korenix patented redundant ring technology, Rapid Super Ring
- RSTP redundancy
- Port-based VLAN
- IGMP Snooping and Query
- DHCP server, client and relay agent for DHCP option 82
- IP security against unauthorized access
- Traffic priority
- Rate control and flow control
- NTP for system time synchronization
- Alarm relay for events of ring failure, link down, and power failure
- SNMP
- Web-based interface
- Command Line Interface – CLI

1.2. Package Checklist

JetRock is shipped with the following items. If any of these items is missing or damaged, please contact your customer service representative for assistance.

	JetNet 4506-RJ	JetNet 4506-M12	JetNet 3006-RJ	JetNet 3006-M12	JetNet 3706-RJ
• JetRock Unit	1	1	1	1	1
• M12 A-coding 5-pole Female Field Assembleable Connecter	1	1	1	1	1
• M12 on RJ45 Ethernet Cable		1			
• M12 on DB9 Shielded Console Cable	1	1			
• Rugged RJ45 Field Assembleable Connecter	6		6		6
• Wall-Mount Screws, Washer and Nuts	4	4	4	4	4
• 1:1 Wall-Mount Drilling Template	1	1	1	1	1
• Quick Installation Guide	1	1	1	1	1
• Documentation and Software CD-ROM	1	1	1	1	1

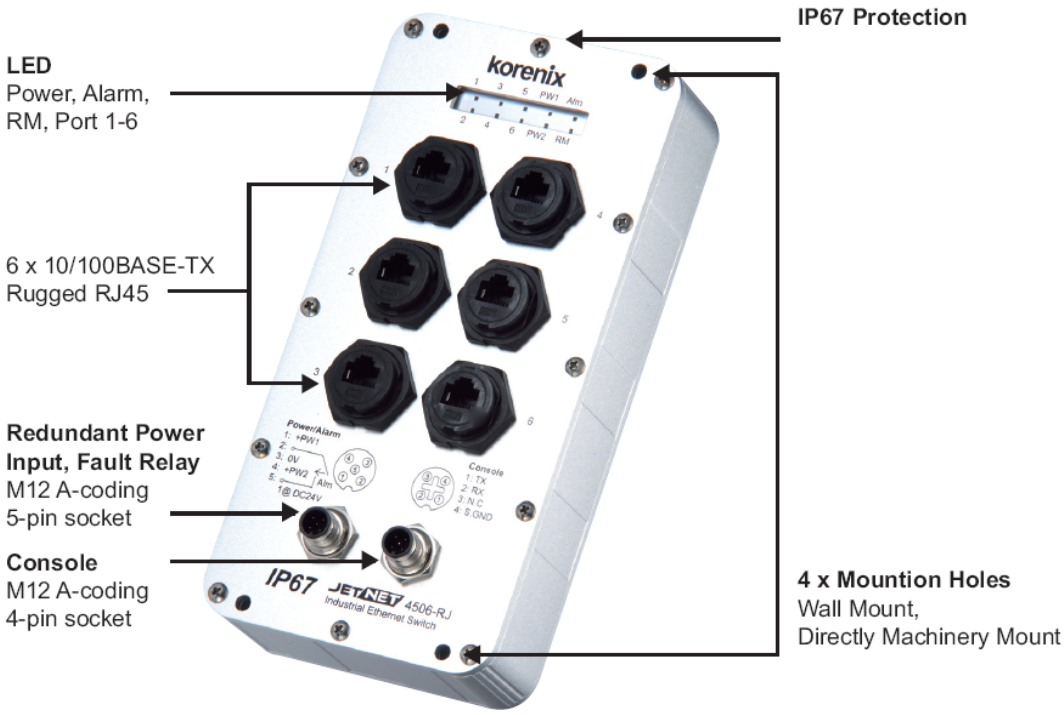
Table 1 Package Content Table

1.3. About This Manual

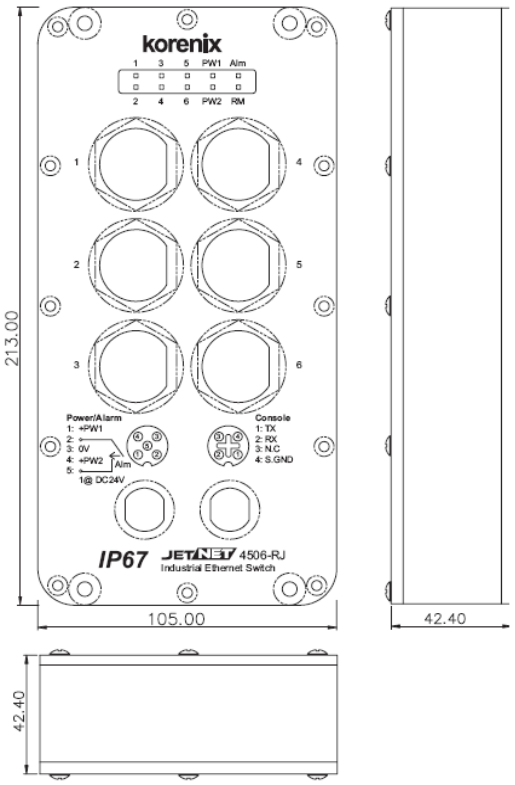
The following manuals are included as PDF files on the CD-ROM:

- User manual – Hardware Installation: includes information to install all versions of JetRock products, JetNet 4506-RJ, JetNet 4506-M12, JetNet 3006-RJ, JetNet 3006-M12, and JetNet 3706-RJ.
- User manual – Configuration: apply to the managed versions of JetRock, JetNet 4506-RJ and JetNet 4506-M12.

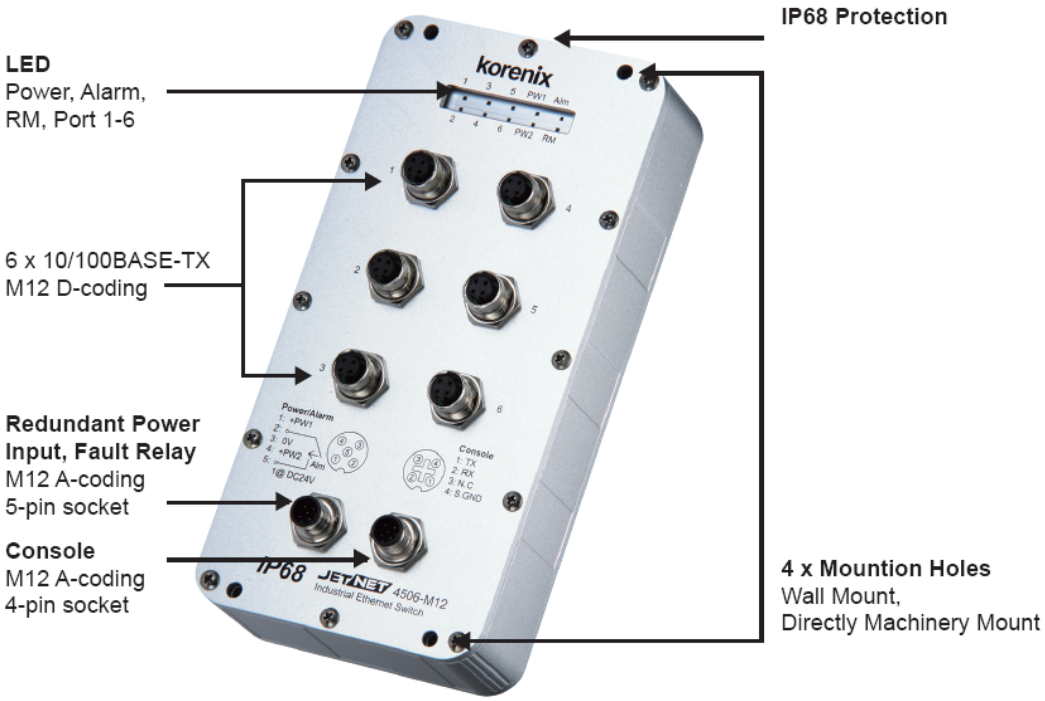
2.Appearances and Dimensions



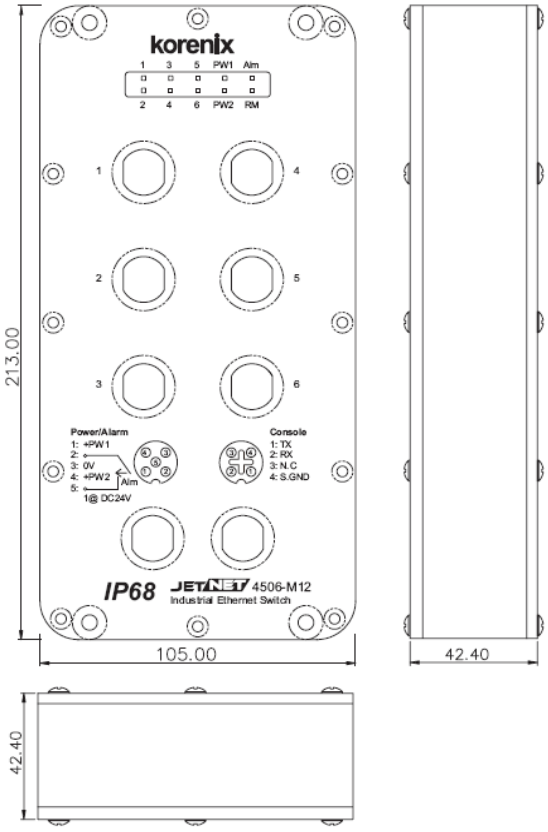
Picture 1 JetNet 4506-RJ Appearance



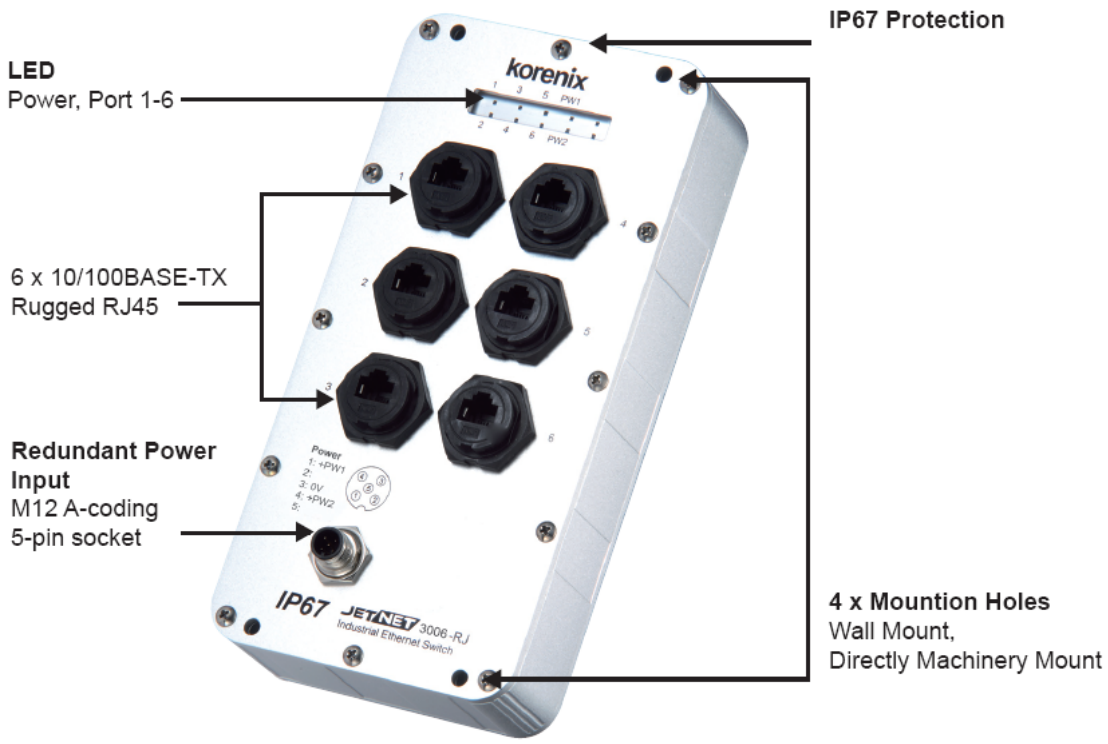
Picture 2 JetNet 4506-RJ Dimension



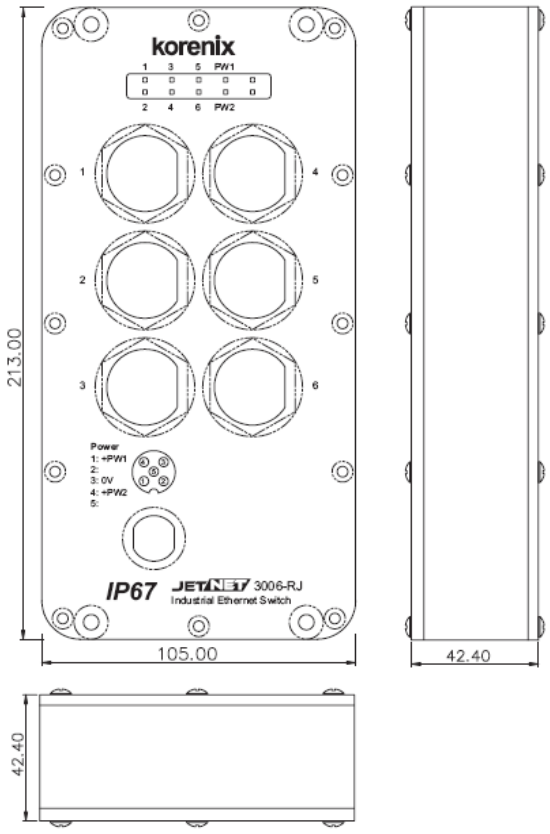
Picture 3 JetNet 4506-M12 Appearance



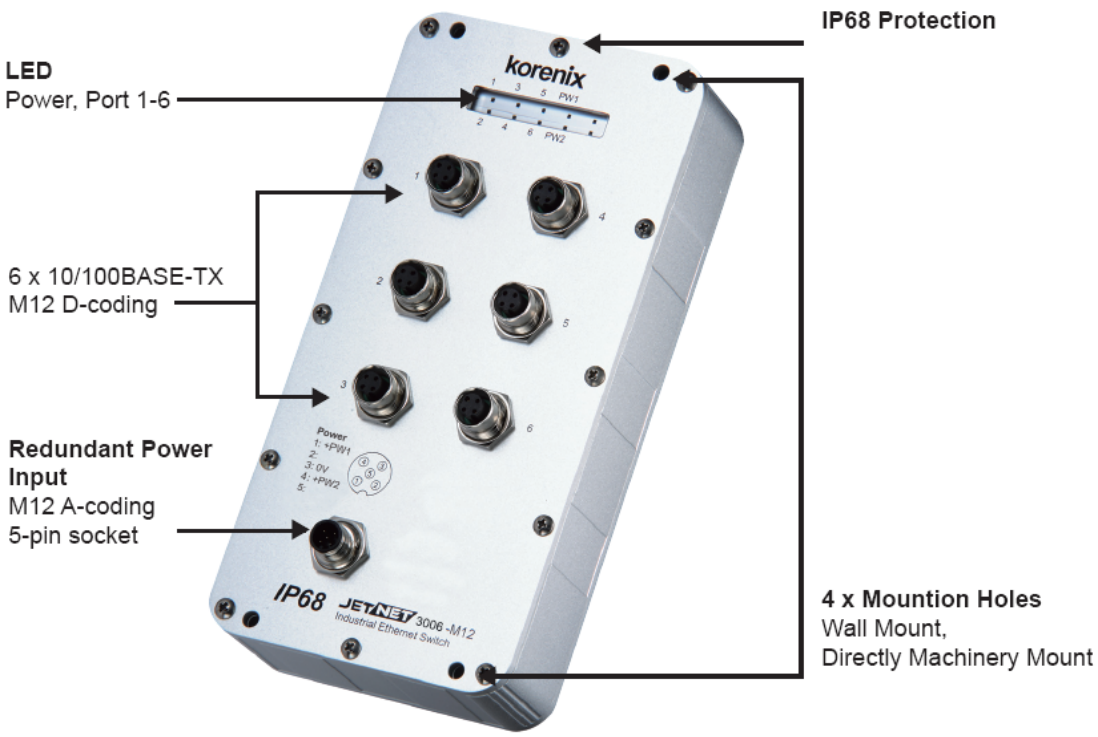
Picture 4 JetNet 4506-M12 Dimension



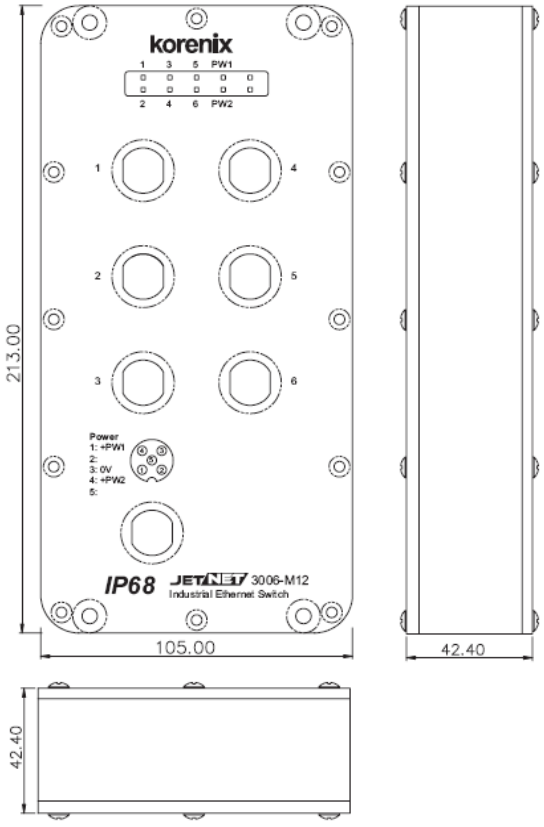
Picture 5 JetNet 3006-RJ Appearance



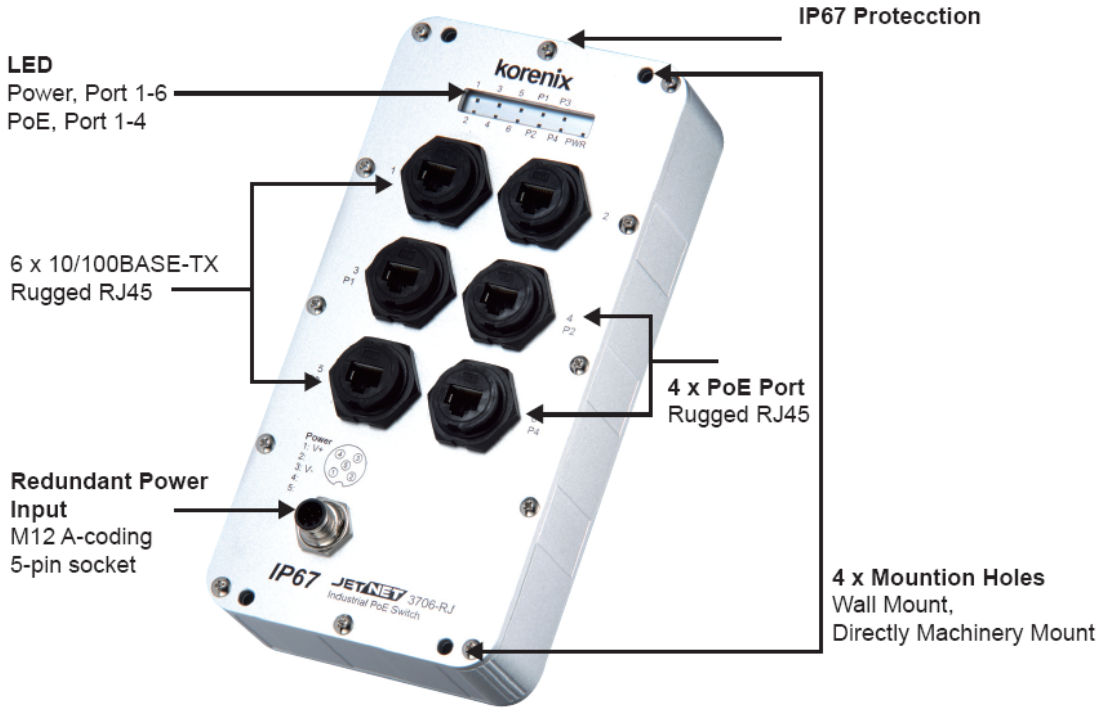
Picture 6 JetNet 3006-RJ Dimension



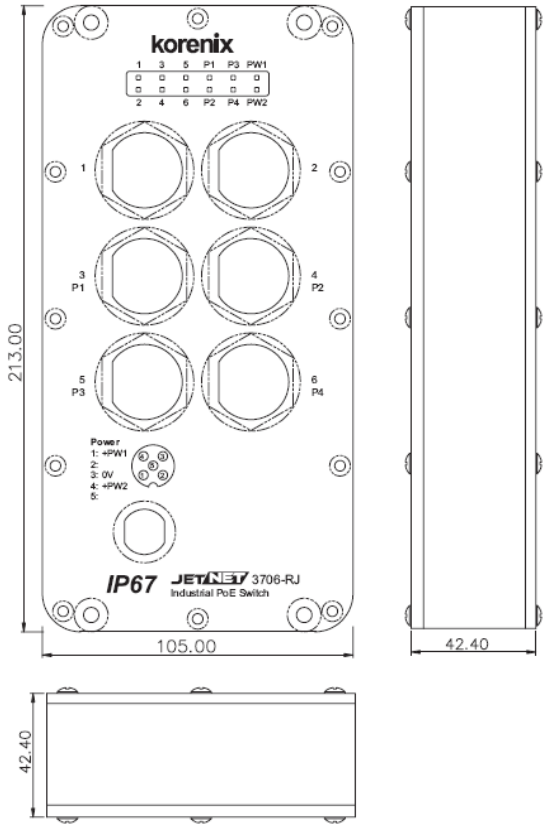
Picture 7 JetNet 3006-M12 Appearance



Picture 8 JetNet 3006-M12 Dimension



Picture 9 JetNet 3706-RJ Appearance



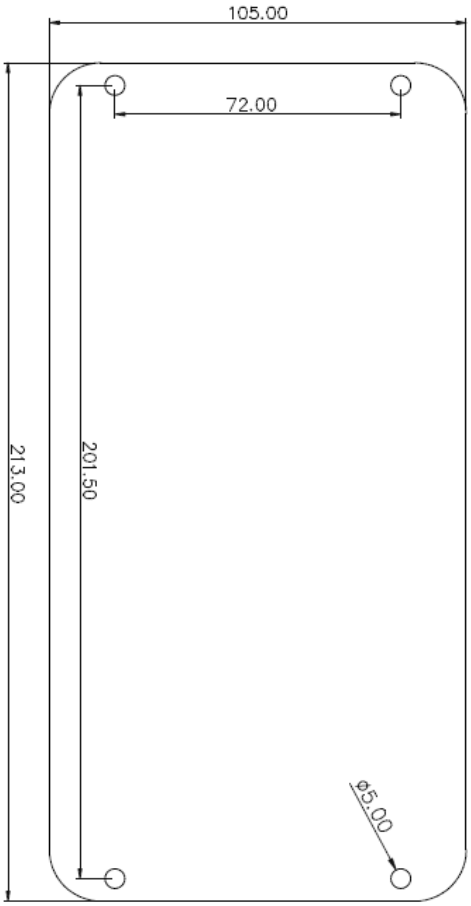
Picture 10 JetNet 3706-RJ Dimension

3. Hardware Installation

3.1. Wall Mounting

JetRock is waterproof and dust-tight and therefore can be mounted directly to any flat surface. For your convenience, JetRock provides a 1:1 Wall-Mount Drilling Template which helps drilling the holes. Mechanical assemble at the installation site with the mounting screws, washers and nuts included in the scope of delivery. Follow the steps below:

1. Drill holes as indicated by the Wall-Mounting Drill Template included in the shipment or the dimension figure below.
2. Mount JetRock with the mounting screws, washers and nuts.



Picture 11 Mechanical Dimensions and Drill Hole Placements

3.2. Din-Rail Mounting

JetRock can also be mounted onto a din rail with an optional accessory, the din-rail bracket. By using the bracket, JetRock can be mounted onto a din rail either vertically or horizontally.

1. Assemble the bracket and the din-rail kit vertically or horizontally.
2. Assemble JetRock and the bracket with the mouning screws, washers and nuts.
3. Mount JetRock to your din rail.

3.3. Grounding

The Earth Ground is located at the bottom of the chassis and is grounded via a ground nut. To prevent the system from being damaged by noise or electrical shock, please use a toothed locking washer for a good electrical connection.

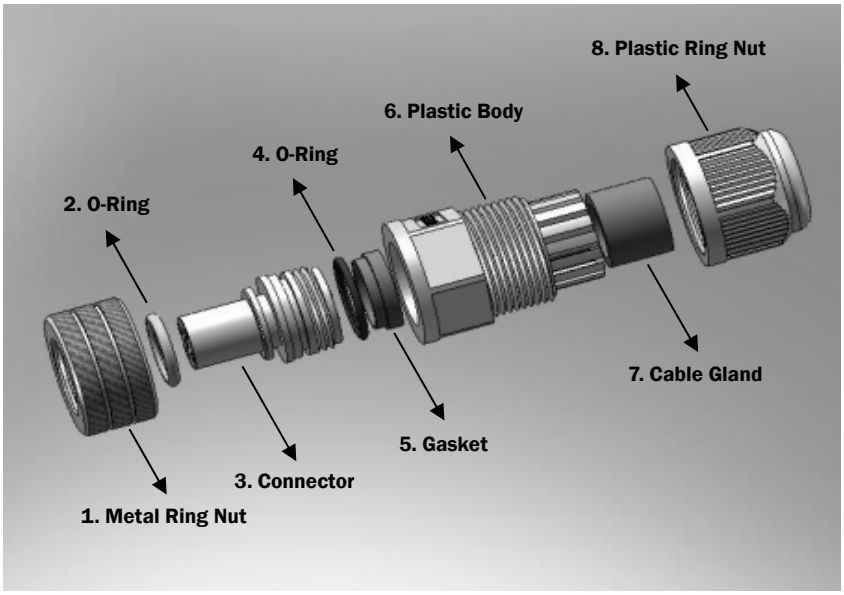
3.4. Assemble Connecter for Power Input and Relay Output

The power input and the signal contact are connected via the M12 A-coding 5-pole female field assemableable connector included in the scope of delivery.
Either PWR1 or PWR2 can provide minimal operation. For redundant power operation, PWR1 and PWR2 must be connected to separate DC voltage source.
An alarm relay is provided by managed JetRock models. The alarm monitors proper functioning of the device, thus enabling remote diagnostics. User can specify the monitored function by means of management.

Use only an external power supply with a safety extra-low voltage in accordance with IEC 950/EN 60 950 to power the device.

Connectors are not electrical isolating devices. Please first plug the connector to the power supply and then turn on the supply voltage.

Observe proper DC voltage polarity when installing power input cables. Reversing voltage polarity can cause permanent damage to the unit and void the warranty.



Picture 12 Field Assembleable Power Connecter Components

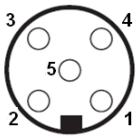
Follow the steps to assemble power supply and signal contact:

①

Slide component 8, 7, 6, and then 5 over the power cable. Keep them loose. Do not tighten them yet. Two cable glands are provided, for cable diameter from 3-5 mm to 5-8 mm. Choose the one best fits your cable.

②

Solder the connecter contacts with the copper wires according to the pin assignment. The front view of the connecter is shown below:



Pin1: +PWR1
Pin2: •
Pin3: 0
Pin4: +PWR2
Pin5: •

ALM 1A@DC24V
(* Only the managed models have ALM)

Step ③ to ⑦, fasten components 5, 6, 7, 8 in sequence:

③

④

⑤

⑥

⑦

Finished

Picture 13 Power Plug Assembly

3.5. Patch Cables

You can connect terminal devices and other segments via twisted pair cables. Ports which are not assigned should be closed with the covering caps contained in the scope of delivery to guarantee the level of IP protection.

Never install or work on the equipment or the cabling during periods of lightning activity.

3.5.1. M12 Connecter

For M12 to M12 connection, you can use either version below:

M12-M12 MDI				
1	TX+	———	RX+	1
2	RX+	———	TX+	2
3	TX-	———	RX-	3
4	RX-	———	TX-	4
M12-M12 MDI-X				
1	TX+	———	RX+	2
2	RX+	———	TX+	1
3	TX-	———	RX-	4
4	RX-	———	TX-	3

Picture 14 M12-to-M12 Ethernet Cable Wiring

For M12 to RJ45 connection, the pin assignment of the patch cable is shown below:

M12-RJ45 MDI				
1	T X +	———	R X +	3
2	R X +	———	T X +	1
3	T X -	———	R X -	6
4	R X -	———	T X -	2
M12-RJ45 MDI-X				
1	T X +	———	R X +	1
2	R X +	———	T X +	3
3	T X -	———	R X -	2
4	R X -	———	T X -	6

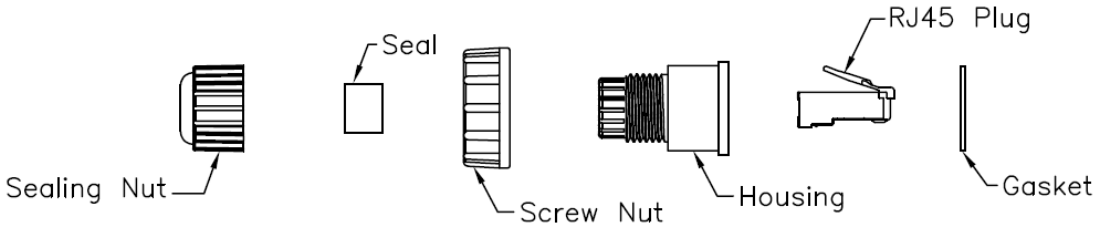
Picture 15 M12-to-RJ45 Ethernet Cable Wiring

Note: Empty slots must be sealed with the covering cap contained in the scope of delivery. The level of IP protection is only achieved when all connections are

bolted together.

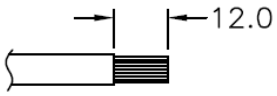
3.5.2.Rugged RJ45 Connecter

The RJ version provides robust connection by the field assembleable rugged RJ45 connecter. Each component of the connector is shown below:

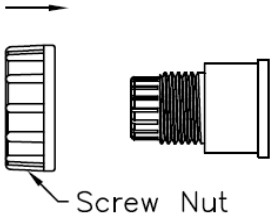


Picture 16 Rugged RJ45 Connecter Components

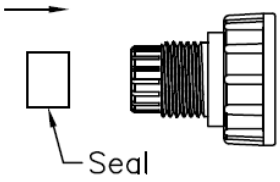
Follow the steps to assemble the rugged RJ45 connecter:

① 

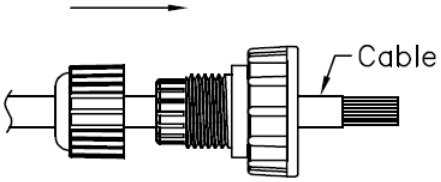
Strip cable sheath.
(It is recommended to use a FTP or a STP cable. The recommended wire gauge is 24 AWG.)

② 

Insert the screw nut into the housing.

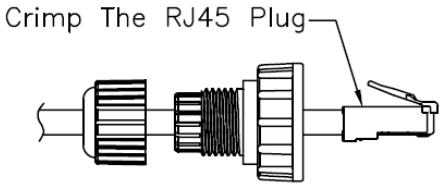
③ 

Insert the seal at the back end of the housing.

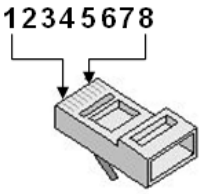
④ 

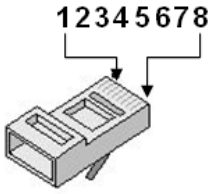
Insert the cable all the way through.

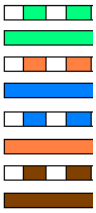
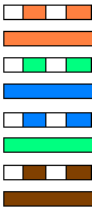
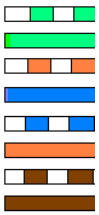
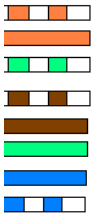
⑤



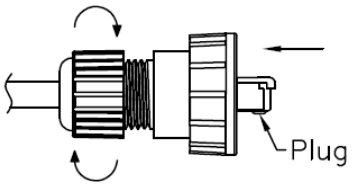
Crimp the RJ45 plug. Three standards for RJ45 wiring, shown as below:





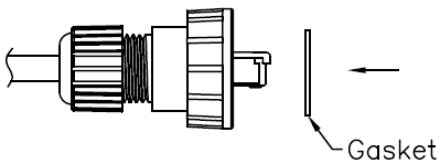
EIA/TIA 568A Straight Through		1. White/Green 2. Green 3. White/Orange 4. Blue 5. White/Blue 6. Orange 7. White/Brown 8. Brown	(same as left)
EIA/TIA 568B Straight Through		1. White/Orange 2. Orange 3. White/Green 4. Blue 5. White/Blue 6. Green 7. White/Brown 8. Brown	(same as left)
Cross Over		1. White/Green 2. Green 3. White/Orange 4. Blue 5. White/Blure 6. Orange 7. White/Brown 8. Brown	 1. White/Orange 2. Orange 3. White/Green 4. White/Brown 5. Brown 6. Green 7. Blue 8. White/Blue

⑥



Insert the RJ45 plug into the housing. Then secure the sealing nut.

⑦

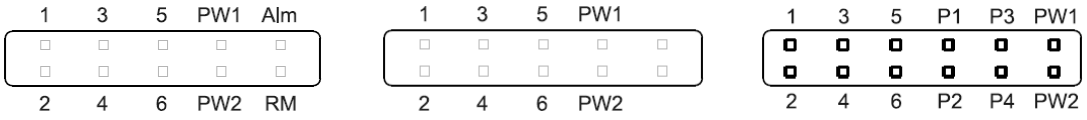


Stick the gasket on the front end of the housing.

Picture 17 Rugged RJ45 Plug Installation

3.6. Displays

After applying the operating voltage, the LEDs on the front panel indicate the status of power supply, network, alarm relay and ring.



Managed Versions:

JetNet 4506-RJ

JetNet 4506-M12

Unmanaged Versions:

JetNet 3006-RJ

JetNet 3006-M12

PoE Versions:

JetNet 3706-RJ

Picture 18 LED Indicators

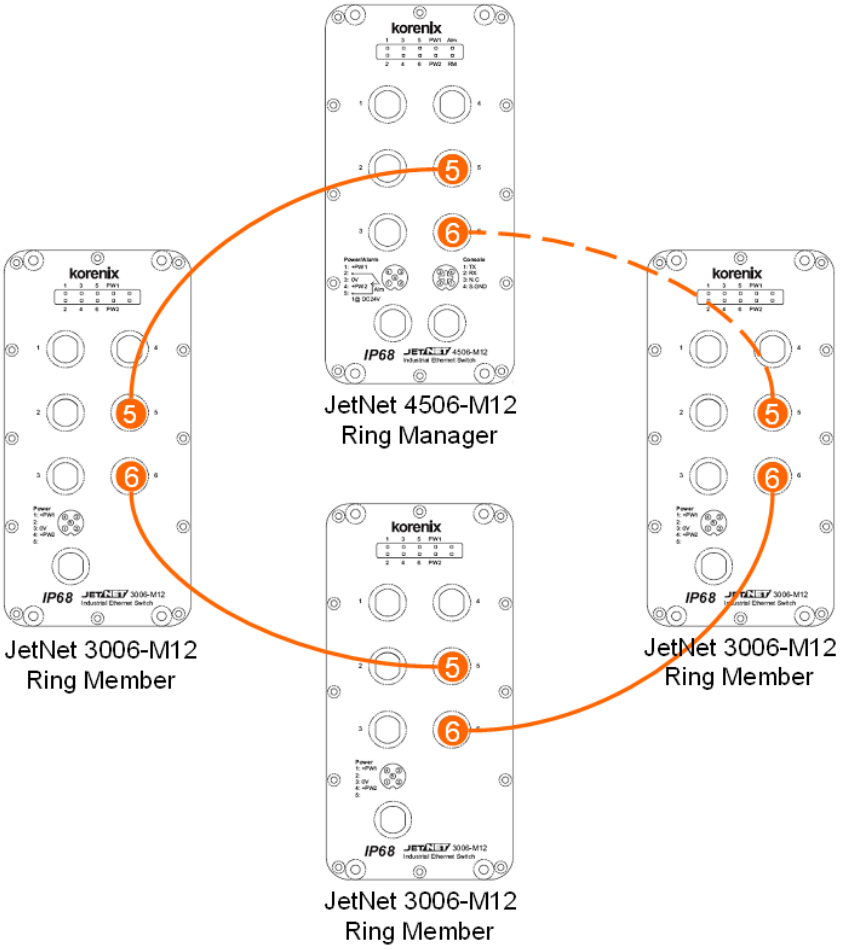
LED	Status	Meaning
PW1	Indicates the status of the primary supply voltage	
	On	The primary supply voltage is on
	Off	The primary supply voltage is too low or off
PW2	Indicates the status of the secondary supply voltage	
	On	The secondary supply voltage is on
	Off	The secondary supply voltage is too low or off
# (1~6)	Indicates the status of network links	
	On	Link established, no activity on cable
	Blinking	Link established, activity on cable
	Off	No link established
P# (1~4)	Indicates the status of PoE links	
	On	PoE power supplying
	Off	No power supplying
Alm	Indicates the status of alarm relay	
	On	The relay is closed to report an error
	Off	The relay is open. Either not enabled or not report an error
RM	Indicates if this switch is the Ring Manager of a ring	
	On	This switch is RM
	Off	This switch is not RM

Table 2 LED Display

3.7. Redundant Ring

Ring technology is most commonly adopted to provide link redundancy for industrial applications. A ring topology is formed by connecting switches into a ring or a loop. One of the connected switches is selected to be RM (Ring Manager), which the redundant path. Korenix redundant ring technology, RSR, is designed for rapid failure recovery, within 5ms, and helps you to select RM and manage the redundant path automatically.

JetNet 4506-M12, JetNet 4506-RJ, JetNet 3006-M12, JetNet 3006-RJ support RSR. 4506 series are managed switches with full RSR features, such as enable/disable ring, select ring id, alter roles between RM or ring member, and change ring ports and so on.



Note: Only use ring-enabled switches when connecting switches into a ring. Korenix RSR guarantees fast failiure recovery while ensures the network work without looping problem.

Picture 19 Typical Ring Connection with JetNet 4506 and 3006 mixed

JetNet 3006-RJ, 3006-M12 are ring switches and preconfigured to act as ring

member without the need of any user configuration. The ring configuration depends on the connected RM, such as JetNet 4506-M12, 4506-RJ or other managed JetNet series products. 3006 detects the ring id and the status by listening the RM's ring packets. If 3 continuous ring packets of a specific ring id are received, 3006 join the ring and start RSR algorithm. If more than 3 ring packets of the ring are lost, 3006 leaves the ring and goes back to listening state.

The default configuration for each model is listed below:

	4506-RJ 4506-M12	3006-RJ 3006-M12
Role	RM or ring member	Ring member only
Number of Ring	1	1
Supported Ring Id	0~31 (Configurable)	0~31 (Auto detection)
Default Ring Port	Port 5, 6 (Configurable)	Port 5, 6 (Fixed)
Rapid Dual Homing	Yes	No

Table 3 Default RSR configuration of JetRock

With the robust connecters and RSR technology, JetRock series provides double insurance for your network connection.

4. Technical Data

4.1. JetNet 4506-RJ

Technology

Standard:

IEEE 802.3 10Base-T

IEEE 802.3u 100Base-TX

IEEE 802.1p Class of Service

IEEE 802.3x Flow Control and Back-pressure

IEEE 802.1D Spanning Tree

IEEE 802.1w Rapid Spanning Tree

Performance

Switch Technology:

Store and Forward Technology with 3.2Gbps wire-speed non-blocking Switch Fabric

System Throughput: 1.785Mpps

MAC Address: 2000

Packet Buffer: Embedded 1Mbits shared buffer

Transfer performance: 14,880pps for Ethernet and 148,810pps for Fast Ethernet

Transfer packet size: from 64 to 1536Bytes

Relay Alarm: Dry Relay output with 1A @ 24V

Management

Management interface: SNMP v1, v2c and v3, Web browser, JetView and CLI Management

Management Security: 4 entries for web, telnet, SNMP management security

SNMP Trap: Provides Cold start, Warm start, Port event, Power event, Authentication failure, and Korenix private trap for proprietary functions

SNMP MIB: RFC 1213 MIBII, RFC 1493 Bridge MIB, RFC 1757 RMON MIB, RFC 2674 VLAN MIB, RFC 1643 Ethernet like MIB, RFC1215 Trap MIB, Korenix Private MIB

Firmware upgrade: TFTP, Local file and JetView

System Log: 1000 system entries for system or remote log server

Event Alarm Relay: 1A @24V Dry Relay Contact output for Super Ring failure, port link down, System power events.

Quality of Service: Quality of Service determined by port, Tag or IPv4 Type of Service

Class of Service: IEEE802.1p class of service, with 4 priority queues

DHCP: Supports DHCP Cilent, DHCP Agent with Option 82, DHCP Server specified IP exclusion and MAC binding function

Timer: Supports Network Time Protocol (NTP) to synchronize time from NTP Server

VLAN: Port based VLAN

IGMP Snooping: Supports IGMP Snooping v1/v2/v3 and IGMP Query v1/v2

Network Redundancy: Supports Rapid Super Ring function for network redundancy with 5ms network recovery time. To inter-operate with other higher level switches, JetNet 4506-RJ provides Rapid Dual Homing technology.

JetNet 4506-RJ also conforms to IEEE802.1D 2004 edition for RSTP and STP standard protocols

IP Security: IP security to prevent unauthorized access

Interface

Number of Ports:

6 x 10/100Base-TX ports

1 x RS-232 Console

1 x Redundant Power with Relay Alarm

Connectors:

10/100TX: Rugged RJ45

RS-232 Console: M12 A-coding 4-ping socket

Power: M12 A-coding 5-pin socket

Cable:

10Base-T: 4-pair UTP/STP Cat. 4, 5 cable,

100Base-TX: 4-pair UTP/STP Cat.5,

Cat.5E/Cat.6 cable,

Diagnostic LED:

PW1/PW2: Power on (Green)

Fast Ethernet: Link (Green) / Activity (Green blinking),

Alm: Relay Alarm for Super Ring failure, port link down or power failure occurred (Red)

RM: Ring Manager (Green)

Power Requirements

Power Consumption:

Operating Voltage: 12 to 48V DC

Power consumption: max 10 Watts @ 48V

Mechanical

Protection class: IP67

Installation: Wall mount

Case: Aluminum metal case

Dimension: 213.6 mm (H) x 106.0 mm (W) x 56.5 mm (D)

Weight:1090 g without package

Environmental

Operating Temperature: -25 ~ 70OC

Storage Temperature: -40 ~ 85OC

Regulatory Approvals

DNV: pending

EN 50155 Railway: compliance

Safety: CE/EN60950(Pending)

EMI:

FCC Class A; CE/EN55022:2003 Class A;

CE/EN61000-3-2:2001 Harmonic Test;

CE/EN61000-3-3:1995 Flicker test

EMS:

EN61000-4-2:1998,ESD

EN61000-4-3:1998, RS

EN61000-4-4:1995, EFT

EN61000-4-5:1995, Surge

EN61000-4-6:1996, CS

EN61000-4-8:PFM

Shock: IEC60068-2-27

Vibration: IEC60068-2-6

Free Fall: IEC60068-2-32

4.2. JetNet 4506-M12

Technology

Standard:

IEEE 802.3 10Base-T

IEEE 802.3u 100Base-TX

IEEE 802.1p Class of Service

IEEE 802.3x Flow Control and Back-pressure

IEEE 802.1D Spanning Tree

IEEE 802.1w Rapid Spanning Tree

Performance

Switch Technology:

Store and Forward Technology with 3.2Gbps wire-speed non-blocking Switch Fabric

System Throughput: 1.785Mpps

MAC Address: 2000

Packet Buffer: Embedded 1Mbits shared buffer

Transfer performance: 14,880pps for Ethernet and 148,810pps for Fast Ethernet

Transfer packet size: from 64 to 1536Bytes

Relay Alarm: Dry Relay output with 1A @ 24V

Management

Management Interface: SNMP v1, v2c and v3, Web browser, JetView and CLI Management

Management Security: 4 entries for web, telnet, SNMP management security

SNMP Trap: Provides Cold start, Warm start, Port event, Power event, Authentication failure, and Korenix private trap for proprietary functions

SNMP MIB: RFC 1213 MIBII, RFC 1493 Bridge MIB, RFC 1757 RMON MIB, RFC 2674 VLAN MIB, RFC 1643 Ethernet like MIB, RFC1215 Trap MIB, Korenix Private MIB

Firmware upgrade: TFTP, Local file and JetView

System Log: 1000 system entries for system or remote log server

Event Alarm Relay: 1A @24V Dry Relay Contact output for Super Ring failure, port link down, System power events.

Quality of Service: Quality of Service determined by port, Tag or IPv4 Type of Service

Class of Service: IEEE802.1p class of service, with 4 priority queues

DHCP: Supports DHCP Cilent, DHCP Agent with Option 82, DHCP Server specified IP exclusion and MAC binding function

Timer: Supports Network Time Protocol (NTP) to synchronize time from NTP Server

VLAN: Port based VLAN

IGMP Snooping: Supports IGMP Snooping v1/v2/v3 and IGMP Query v1/v2

Network Redundancy: Supports Rapid Super Ring function for network redundancy with 5ms network recovery time. To inter-operate with other higher level switches, JetNet 4506-M12 provides Rapid Dual Homing technology. JetNet 4506-M12 also conforms with IEEE802.1D 2004 edition for RSTP and STP standard protocols

IP Security: IP security to prevent unauthorized access

Interface

Number of Ports:

6 x 10/100Base-TX ports

1 x RS-232 Console

1 x Redundant Power with Relay Alarm

Connectors:

10/100TX: M12 D-coding 4-pin socket

RS-232 Console: M12 A-coding 4-ping socket

Power: M12 A-coding 5-pin socket

Cable:

10/100 Base-TX: 2-pair cable

Diagnostic LED:

PW1/PW2: Power on (Green)

Fast Ethernet: Link (Green) / Activity (Green blinking),

Alm: Relay Alarm for Super Ring failure port link down or power failure occurred (Red)

RM: Ring Manager (Green)

Power Requirements

Power Consumption:

Operating Voltage: 12 to 48V DC

Power consumption: max 10 Watts @ 48V

Mechanical

Protection Class: IP68

Installation: Wall mount

Case: Aluminum metal case

Dimension: 213.6 mm (H) x 106.0 mm (W) x 56.5 mm (D)

Weight: 1110 g without package

Environmental

Operating Temperature: -25 ~ 70OC

Storage Temperature: -40 ~ 85OC

Regulatory Approvals

DNV: pending

EN 50155 Railway: compliance

Safety: CE/EN60950

EMI:

FCC Class A; CE/EN55022:2003 Class A;

CE/EN61000-3-2:2001 Harmonic Test;

CE/EN61000-3-3:1995 Flicker test

EMS:

EN61000-4-2:1998,ESD

EN61000-4-3:1998, RS

EN61000-4-4:1995, EFT

EN61000-4-5:1995, Surge

EN61000-4-6:1996, CS

EN61000-4-8: PFM

Shock: IEC60068-2-27

Vibration: IEC60068-2-6

Free Fall: IEC60068-2-32

4.3. JetNet 3006-RJ

Technology

Standard:

IEEE 802.3 10Base-T

IEEE 802.3u 100Base-TX

IEEE 802.3x Flow Control and Back-pressure

Broadcast storm control

Performance

Switch Technology:

Store and Forward Technology with 3.2Gbps wire-speed non-blocking Switch Fabric

System Throughput: 1.785Mpps

MAC Address: 2000

Packet Buffer: Embedded 1Mbits shared buffer

Transfer performance: 14,880pps for Ethernet and 148,810pps for Fast Ethernet

Transfer packet size: from 64 to 1536Bytes

Interface

Number of Ports:

6 x 10/100Base-TX ports

Connectors:

10/100TX: Rugged RJ45

Power: M12 A-codeing 5-pin connector

Cable:

10Base-T: 4-pair UTP/STP Cat. 4, 5 cable,

100Base-TX: 4-pair UTP/STP Cat.5,

Cat.5E/Cat.6 cable,

Diagnostic LED:

Power: Power On (Green)

Fast Ethernet: Link (Green) / Activity (Green blinking)

Network Redundancy

Support Rapid Super Ring with 5ms recovery time.

Power Requirements

Power Consumption:

Operating Voltage: 12 to 48V DC

Power consumption: max 6 Watts @ 48V

Mechanical

Protection class: IP67

Installation: Wall mount

Case: Aluminum metal case

Dimension: 213.6 mm (H) x 106.0 mm (W) x 56.5 mm (D)

Weight:

1075 g with package

Environmental

Operating Temperature: -25 ~ 70OC

Storage Temperature: -40 ~ 85OC

Regulatory Approvals

DNV: pending

EN 50155 Railway: compliance

Safety: CE/EN60950

EMI:

FCC Class A; CE/EN55022:2003 Class A;

CE/EN61000-3-2:2001 Harmonic Test;

CE/EN61000-3-3:1995 Flicker test

EMS:

EN61000-4-2:1998,ESD

EN61000-4-3:1998, RS

EN61000-4-4:1995, EFT

EN61000-4-5:1995, Surge

EN61000-4-6:1996, CS

EN61000-4-8:PFM

Shock: IEC60068-2-27

Vibration: IEC60068-2-6

Free Fall: IEC60068-2-32

4.4. JetNet 3006-M12

Technology

Standard:

IEEE 802.3 10Base-T

IEEE 802.3u 100Base-TX

IEEE 802.3x Flow Control and Back-pressure

Broadcast storm control

Performance

Switch Technology:

Store and Forward Technology with 3.2Gbps wire-speed non-blocking Switch Fabric

System Throughput: 1.785Mpps

MAC Address: 2000

Packet Buffer: Embedded 1Mbits shared buffer

Transfer performance: 14,880pps for Ethernet and 148,810pps for Fast Ethernet

Transfer packet size: from 64 to 1536Bytes

Interface

Number of Ports:

6 x 10/100Base-TX ports

Connectors:

10/100TX: M12 D-coding 4-pin socket

Power: M12 A-codeing 5-pin connector

Cable:

10/100 Base-TX: 2-pair cable

Diagnostic LED:

Power LED: Power 1/Power 2 (Green)

Fast Ethernet Port 1~6: Link (Green)/Activity (Green blinking)

Network Redundancy

Support Rapid Super Ring with 5ms recovery time.

Power Requirements

Power Consumption:

Operating Voltage: 12 to 48V DC

Power consumption: max 6 Watts @ 48V

Mechanical

Protection class: IP68

Installation: Wall mount

Case: Aluminum metal case

Dimension: 213.6 mm (H) x 106.0 mm (W) x 56.5 mm (D)

Weight: 1095 g without package

Environmental

Operating Temperature: -25 ~ 70OC

Storage Temperature: -40 ~ 85OC

Regulatory Approvals

DNV: pending

EN 50155 Railway: compliance

Safety: CE/EN60950

EMI:

FCC Class A; CE/EN55022:2003 Class A;

CE/EN61000-3-2:2001 Harmonic Test;

CE/EN61000-3-3:1995 Flicker test

EMS:

EN61000-4-2:1998,ESD

EN61000-4-3:1998, RS

EN61000-4-4:1995, EFT

EN61000-4-5:1995, Surge

EN61000-4-6:1996, CS

EN61000-4-8:PFM

Shock: IEC60068-2-27

Vibration: IEC60068-2-6

Free Fall: IEC60068-2-32

4.5. JetNet 3706-RJ

Technology

Standard:

IEEE 802.3 10Base-T

IEEE 802.3u 100Base-TX

IEEE 802.3af Power Over Ethernet (PoE)

IEEE802.3x Flow control and back pressure

Broadcast storm control

Performance

Switch Technology: Store and Forward with 2.0Gbps switch fabric

System Throughput: 1.785Mpps

MAC Address: 2000

Packet Buffer: 448kbits Embedded packet buffer

Transfer performance: 14,880pps for Ethernet and 148,810 for Fast Ethernet

Transfer packet size: from 64 to 1536 Bytes

PoE Technology: End-Span wiring architecture with AC disconnection behavior Provides PD classification detection, class ID 0~3 follow IEEE802.3af standard

Pin assignment: V+ (Pin 4, 5), V- (Pin 7, 8), TX (Pin 1, 2), RX (Pin 3, 6)

Interface

Number of Ports:

4 x 10/100Base-TX Ports auto negotiation speed, F/H duplex mode, and auto MDI/MDIX connection with PoE injector

2 x 10/100Base-TX Ports auto negotiation speed, F/H duplex mode, and auto MDI/MDIX connection

Connectors:

10/100TX: Rugged RJ45 with IP67 grade protection

Redundant Power: M12 A-coded male 5 pin connector, Pin assignment (Pin1: V1+, Pin3: V-, Pin4: V2+)

LED Indicators: Power, 10/100M, Link/Acts

Power: Power 1 / Power 2 (Green)

Fast Ethernet: Link (Green) / Activity (Green blinking),

PoE: Power on (Blue)

Cable:

10Base-T: 4-pair UTP/STP Cat. 4, 5 cable,

100Base-TX: 4-pair UTP/STP Cat.5,

Cat.5E/Cat.6 cable,

Power Requirements

Power Consumption:

Operating voltage: DC 44~57V

8Watts @ 48V (Maximum) without PD loading

Mechanical

Protection class: IP67

Installation: Wall mount

Case: Aluminum metal case

Dimension: 213.6 mm (H) x 106.0 mm (W) x 56.5.0 mm (D)

Weight: 1025 g without package

Environmental

Operating Temperature: -40 ~ 70OC

Storage Temperature: -40 ~ 85OC

Regulatory Approvals

Safety: CE/EN60950(Pending)

EMI:

FCC Class A; CE/EN55022:2003 Class A

EMS:

EN61000-4-2:1998,ESD

EN61000-4-3:1998, RS

EN61000-4-4:1995, EFT

EN61000-4-5:1995, Surge

EN61000-4-6:1996, CS

EN61000-4-8:PFM

Vibration: IEC60068-2-6

Shock: IEC60068-2-27

Free Fall: IEC60068-2-32

Further Support

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Reversion History

Version	Date	Description
2.0	Sep 2008	JetNet 3006-M12, JetNet 3006-RJ supports Rapid Super Ring.
1.0	Jan 2009	Initial